UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,672	06/26/2006	Yusuke Konagai	YAMA-0130	5043

37013 7590 08/05/2010

ROSSI, KIMMS & McDOWELL LLP.
20609 Gordon Park Square, Suite 150
Ashburn, VA 20147

EXAMINER
PAUL, DISLER

ART UNIT	PAPER NUMBER
2614	

NOTIFICATION DATE	DELIVERY MODE
08/05/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptomail@rkmlegalgroup.com

Office Action Summary	Application No.	Applicant(s)	
	10/584,672	KONAGAI ET AL.	
	Examiner	Art Unit	
	DISLER PAUL	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 June 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13; 15-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13; 15-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The applicant's amended claim as filed on 6/24/10 have been analyzed and rejected.

It is noted as amended, Yanagawa et al. does disclose of such concept wherein audio output apparatus comprising: an array speaker unit having a plurality of speaker units (fig.1(26); fig.3 (26); col.2 line 64-67/the apparatus include *an array of speaker*); a measuring unit that measures levels of a plurality of input sound signals including a first sound signal for a first sound beam to be produced by the plurality of speaker units and a second sound signal for a second sound beam to be produced by the plurality of speaker units (fig.1 (22); col.2 line 48-56; col.3 line 10-19/the apparatus include a processor for measuring the input signals to determine the directivity of and produce sound beam signals).

Yanagawa et al. further disclose of a delay unit having a first delay circuit for each of the adjusted first sound signal and a second delay circuit for the second sound signal (fig.1b (22); col.2 line 48-52; col.2 line 58-62/the FIR processor inherently include a delaying for determining the respective beam for each of the sound signal in determining the directivity; *please see below for an example of the FIR filter based on a cited reference with inherent property of a delay*).

Asada et al. does explicitly disclose of an apparatus wherein a delay unit having a delay circuit for each of the adjusted first sound signal (fig.1 (Dln); fig.22; par [0057; 0064]/the FIR processor herein has a delay for determining the directive pattern) for focusing the sound at a certain point toward listener as desired.

Thus, Yanagawa et al. of a directivity control circuit that controls a delay setting for each of the first and second delay circuits based on a desired focal position of each of the first and second sound-wave beams to be directed to and a position of each of the plurality of speaker units, to emit the first sound beam from the plurality of speaker units in a first directivity and to emit the second sound beam from the plurality of speaker units in a second directivity different from the first directivity (fig.1a (28); fig.5; col.2 line 58-63; col. 3 line 11-47; col.4 line 1-17/the CPU control the delay setting for the FIR delay so that the first sound and second sound may be send to different directivities).

And furthermore; in regard to Claim 15, the audio output apparatus according to claim 6, wherein the audio output apparatus simultaneously reproduces the first and second sound signals (S1, S2); fig.1a (IN1-IN2); col.3 line 10-20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1; 4; 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagawa et al. (US 5,953,432) and Yoshino et al. (US 7054448) and in view of Asada et al. (US 2006/0050897 A1).

Re claim 1,Yanagawa et al. disclose of an audio output apparatus comprising: an array speaker unit having a plurality of speaker units (fig.1(26); fig.3 (26); col.2 line 64-67/the apparatus include an array of speaker); a measuring unit that measures levels of a plurality of input sound signals including a first sound signal for a first sound beam to be produced by the plurality of speaker units and a second sound signal for a second sound beam to be produced by the plurality of speaker units (fig.1 (22); col.2 line 48-56; col.3 line 10-19/the apparatus include a processor for measuring the input signals to determine the directivity of and produce sound beam signals).

However, Yanagawa et al. failed to disclose that the apparatus comprising: a sound level adjusting unit that adjusts gains based on the measured levels by the measuring unit so that the plurality of sound signals have equal magnitudes. But, Yoshino et al. disclose of a system wherein an apparatus comprising: a sound level

adjusting unit that adjusts gains based on the measured levels by the measuring unit so that the plurality of sound signals have equal magnitudes (fig.4 (12); fig.5B (12a-12b); col.8 line 7-10 & line 34-46/the measured signal has level adjusted so that output may have equal magnitude) so as to produce the optimal sound level correction based on the ambient condition of the space. Thus, it would have been obvious for one of the ordinary skills in the art to have modified the prior art by adding the apparatus comprising: a sound level adjusting unit that adjusts gains based on the measured levels by the measuring unit so that the plurality of sound signals have equal magnitudes so as to produce the optimal sound level correction based on the ambient condition of the space.

The combined teaching of Yanagawa et al. and Yoshino et al. as a whole, further disclose of a delay unit having a first delay circuit for each of the adjusted first sound signal and a second delay circuit for the second sound signal (fig.1b (22); col.2 line 48-52; col.2 line 58-62/the FIR processor inherently include a delaying for determining the respective beam for each of the sound signal in determining the directivity; please see below for an example of the FIR filter with a delay).

Asada et al. does explicitly disclose of an apparatus wherein a delay unit having a delay circuit for each of the adjusted first sound signal (fig.1 (Dln); fig.22; par [0057; 0064]/the FIR processor herein has a delay for determining the directive pattern) for focusing the sound at a certain point toward listener as desired.

Thus, the combined teaching of Yanagawa et al. and Yoshino et al. as a whole, further disclose of a directivity control circuit that controls a delay setting for each of the first and second delay circuits based on a desired focal position of each of the first and second sound-wave beams to be directed to and a position of each of the plurality of speaker units, to emit the first sound beam from the plurality of speaker units in a first directivity and to emit the second sound beam from the plurality of speaker units in a second directivity different from the first directivity (fig.1a (28); fig.5; col.2 line 58-63; col. 3 line 11-47; col.4 line 1-17/the CPU control the delay setting for the FIR delay so that the first sound and second sound may be send to different directivities).

Claim 4; Yanagawa et al. disclose of an array speaker unit having a plurality of speaker units (fig.1 (26); fig.3 (26); col.2 line 64-67/the apparatus include an array of speaker); a measuring unit that measures levels of a plurality of sound signals including a first sound signal for a first sound beam to be produced by the plurality of speaker units and a second sound signal for a second sound beam to be produced by the plurality of speaker units(fig.1 (22); col.2 line 48-56; col.3 line 10-19/the apparatus include a processor for measuring the input signals to determine the directivity of and produce sound beam signals) and a sound level adjusting unit that adjusts gains based on the measured levels (fig.1a (24); col.3 line 9-11).

However, Yanagawa et al. failed to disclose that the apparatus comprising: a sound level adjusting unit that adjusts gains based on the measured levels so that a level difference between at least first and second sound signals specified by a viewer is made constant among the plurality of sound signals. Yoshino et al. disclose of a system wherein an apparatus comprising: a sound level adjusting unit that adjusts gains based on the measured levels so that a level difference between at least first and second sound signals specified by a viewer is made constant among the plurality of sound signals (fig.4 (12); fig.5B (12a-12b); col.8 line 7-10 & line 34-46/the measured signal has level adjusted so that output may have equal magnitude sound signal and thus their level difference does not vary and thus is constant) so as to produce the optimal sound level correction based on the ambient condition of the space. Thus, it would have been obvious for one of the ordinary skills in the art to have modified the prior art by adding the apparatus comprising: sound level adjusting unit that adjusts gains based on the measured levels so that a level difference between at least first and second sound signals specified by a viewer is made constant among the plurality of sound signals so as to produce the optimal sound level correction based on the ambient condition of the space.

The combined teaching of Yanagawa et al. and Yoshino et al. as a whole, further disclose that a first delay circuit for each of the adjusted first sound signal and a second delay circuit for the second sound signal (fig.1b (22); col.2 line 48-52; col.2 line 58-

62/the FIR processor inherently include a delaying for determining the respective beam for each of the sound signal in determining the directivity; please see below for an example of the FIR filter with a delay) and a directivity control circuit that controls a delay setting for each of the first and second delay circuits based on a desired focal position of each of the first and second [[a]] sound-wave beams to be directed to and a position of each of the plurality of speaker units, to emit the first sound beam from the plurality of speaker units in a first directivity and to emit the second sound beam from the plurality of speaker units in a second directivity different from the first directivity (fig.1a (28); fig.5; col.2 line 58-63; col. 3 line 11-47; col.4 line 1-17/the CPU control the delay setting for the FIR delay so that the first sound and second sound may be send to different directivities).

Claim 15, the audio output apparatus according to claim 1, wherein the audio output apparatus simultaneously reproduces the first and second sound signals (fig.1b (S1, S2); fig.1a (IN1-IN2); col.3 line 10-20).

Similarly, claim 16 which cite the similar limitation as in claim 15 has been analyzed and rejected.

Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagawa et al. (US 5,953,432) and Yoshino et al. (US 7054448) and Yoshino (US 2004/0071299 A1).

Claim 2, the audio output apparatus according to claim 1, but, the combined teaching of Yanagawa et al. and Yoshino et al. as a whole, failed to disclose of wherein: the measuring unit separates the plurality of sound signals into a plurality of frequency bands to measure levels thereof, and the sound level adjusting unit assigns weights on the measured levels of the frequency bands with a predetermined weight for each of the frequency bands and adjusts the gains based on the weighted levels of the individual frequency bands so that the plurality of sound signals are in equal magnitudes.

But, Yoshino disclose of such concept wherein a measuring unit separates the plurality of sound signals into a plurality of frequency bands to measure levels thereof, and the sound level adjusting unit assigns weights on the measured levels of the frequency bands with a predetermined weight for each of the frequency bands and adjusts the gains based on the weighted levels of the individual frequency bands so that the plurality of sound signals are in equal magnitudes (fig.6 (22, 71; 32A-32F); par [0230; 0237; 0215]/the measured signal is divided and gain adjusted of all channels to have equal magnitude) so as to provide an improved surround-sound of production. Thus, it would have been obvious for one of the ordinary skills in the art to have modified the prior art by adding the measuring unit separates the plurality of sound signals into a plurality of frequency bands to measure levels thereof, and the sound level adjusting unit assigns weights on the measured levels of the frequency bands with a predetermined weight for each of the frequency bands and adjusts the gains based on

the weighted levels of the individual frequency bands so that the plurality of sound signals are in equal magnitudes so as to provide an improved surround-sound of production.

Claim 3, the audio output apparatus according to claim 1, but, the combined teaching of Yanagawa et al. and Yoshino et al. as a whole, failed to disclose of wherein: the measuring unit separates the plurality of sound signals into a plurality of frequency bands to measure levels thereof, and the sound level adjusting unit adjusts gains so that the plurality of sound signals are made to have equal magnitudes for each of the frequency bands based on the measured levels of the respective frequency bands.

But, Yoshino disclose of such concept wherein a measuring unit separates the plurality of sound signals into a plurality of frequency bands to measure levels thereof, and the sound level adjusting unit adjusts gains so that the plurality of sound signals are made to have equal magnitudes for each of the frequency bands based on the measured levels of the respective frequency bands (fig.6 (22, 71; 32A-32F); par [0230; 0237; 0215]/the measured signal is divided and gain adjusted of all channels to have equal magnitude) so as to provide an improved surround-sound of production. Thus, it would have been obvious for one of the ordinary skills in the art to have modified the prior art by adding the measuring unit separates the plurality of sound signals into a plurality of frequency bands to measure levels thereof, and the sound level adjusting

unit adjusts gains so that the plurality of sound signals are made to have equal magnitudes for each of the frequency bands based on the measured levels of the respective frequency bands so as to provide an improved surround-sound of production.

Claims 5; 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagawa et al. (US 5,953,432) and Grimani (US 6498852 B2).

Claim 5, Yanagawa et al. disclose of an audio output apparatus comprising: an array speaker unit having a plurality of speaker units(fig.1 (26); fig.3 (26); col.2 line 64-67/the apparatus include an array of speaker); a measuring unit that measures levels of a plurality of sound signals including a first sound signal for a first sound beam to be produced by the plurality of speaker units and a second sound signal for a second sound beam to be produced by the plurality of speaker units(fig.1 (22); col.2 line 48-56; col.3 line 10-19/the apparatus include a processor for measuring the input signals to determine the directivity of and produce sound beam signals) and a sound level adjusting unit that adjusts gains based on the measured levels (fig.1a (24); col.3 line 9-11).

However, Yanagawa et al. failed to disclose of the apparatus comprising: a compression unit that compresses a plurality of dynamic ranges of the plurality of sound signals to a predetermined value or below based on the measured levels and outputs a plurality of sound signals after the dynamic ranges are compressed. But, Grimani

disclose of apparatus comprising: a compression unit that compresses a plurality of dynamic ranges of the plurality of sound signals to a predetermined value or below based on the measured levels and outputs a plurality of sound signals after the dynamic ranges are compressed (fig.2 (1-2); col.3 line 35-55/the plurality of audio signals is attenuated or compressed after being measured) for the purpose of detecting the condition of the main channel and creating the desired sound effect. thus, it would have been obvious for one of the ordinary skills in the art to have modified the prior art by adding the apparatus comprising: a compression unit that compresses a plurality of dynamic ranges of the plurality of sound signals to a predetermined value or below based on the measured levels and outputs a plurality of sound signals after the dynamic ranges are compressed for the purpose of detecting the condition of the main channel and creating the desired sound effect.

Thus, the combined teaching of Yanagawa et al. and Grimani as a whole, further disclose of the apparatus comprising: a delay unit having a first delay circuit for each of the first plurality of sound signal and a second delay circuit for the second sound signal output from the compression unit (fig.1b (22); col.2 line 48-52; col.2 line 58-62/the FIR processor inherently include a delaying for determining the respective beam for each of the sound signal in determining the directivity) and a directivity control circuit that controls a delay setting for each of the first and second [[a]] sound-wave beams to be directed to and a position of each of the plurality of speaker units, to emit the first sound

beam from the plurality of speaker units in a first directivity and to emit the second sound beam from the plurality of speaker units in a second directivity different from the first directivity (fig.1a (28); fig.5; col.2 line 58-63; col. 3 line 11-47; col.4 line 1-17/the CPU control the delay setting for the FIR delay so that the first sound and second sound may be send to different directivities).

Claim 17, the audio output apparatus according to claim 1, wherein the audio output apparatus simultaneously reproduces the first and second sound signals (S1, S2); fig.1a (IN1-IN2); col.3 line 10-20).

Claims 7; 10; 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagawa et al. (US 5,953,432) and Aylward (US 6240189 B1).

Claim 7, Yanagawa et al. disclose of an audio output apparatus comprising: : an array speaker unit having a plurality of speaker units (fig.1(26); fig.3 (26); col.2 line 64-67/the apparatus include an array of speaker); a measuring unit that measures levels of a plurality of input sound signals including a first sound signal for a first sound beam to be produced by the plurality of speaker units and a second sound signal for a second sound beam to be produced by the plurality of speaker units (fig.1 (22); col.2 line 48-56; col.3 line 10-19/the apparatus include a processor for measuring the input signals to determine the directivity of and produce sound beam signals).

However, Yanagawa et al. failed to disclose that the apparatus comprising: a gain control circuit that refers the measured levels and sets a gain coefficient to each of the plurality of sound signals; a sound level adjusting circuit that adjusts the levels of the plurality of sound signals based on the set gain coefficient. But, Aylward disclose of a gain control circuit that refers the levels measured by the measuring circuit and sets a gain coefficient to each of the sound signal and a sound level adjusting circuit that adjusts the levels of the sound signals based on the set gain coefficient (fig.2-4 (12, 24, 26, 28)); col.4 line 10-15; col. 5 line 25-36) so as to produce a modified mode signal in producing a desired signal. Thus, it would have been obvious for one of the ordinary skills in the art to have modified the prior art by adding the apparatus comprising: a gain control circuit that refers the measured levels and sets a gain coefficient to each of the plurality of sound signals; a sound level adjusting circuit that adjusts the levels of the plurality of sound signals based on the set gain coefficient so as to produce a modified mode signal in producing a desired signal.

Thus, the combined teaching of Yanagawa et al. and Aylward as a whole, further disclose of the apparatus comprising: a delay unit having a first delay circuit for each of the first plurality of sound signal and a second delay circuit for the second sound signal output from the compression unit (fig.1b (22); col.2 line 48-52; col.2 line 58-62/the FIR processor inherently include a delaying for determining the respective beam for each of the sound signal in determining the directivity) and a directivity control circuit that

controls a delay setting for each of the first and second delay circuits based on a desired focal position of each of the first and second [[a]] sound-wave beams to be directed to and a position of each of the plurality of speaker units, to emit the first sound beam from the plurality of speaker units in a first directivity and to emit the second sound beam from the plurality of speaker units in a second directivity different from the first directivity (fig.1a (28); fig.5; col.2 line 58-63; col. 3 line 11-47; col.4 line 1-17/the CPU control the delay setting for the FIR delay so that the first sound and second sound may be send to different directivities).

Re claim 10, the audio output apparatus according to claim 7, wherein the gain control unit sets the gain coefficients so that dynamic ranges of the plurality of sound signals input to the array speakers unit are made to have a predetermined value or below (fig.2-4 (12, 24, 26, 28)); col.4 line 10-20; col. 5 line 25-36/the signal based on the gain coefficient to have a predetermined value).

Claim 19, the audio output apparatus according to claim 7, wherein the audio output apparatus simultaneously reproduces the first and second sound signals (S1, S2); fig.1a (IN1-IN2); col.3 line 10-20).

Claims 8-9; 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagawa et al. (US 5,953,432) and Aylward (US 6240189 B1) and Yoshino et al. (US 7054448).

Re claim 8, the audio output apparatus according to claim 7, but the combined teaching of Yanagawa et al. and Aylward as a whole, failed to disclose of wherein the gain control unit sets the gain coefficient so that the plurality of the levels of the plurality of sound signals is nearly equal to each other.

But, Yoshino et al. disclose of a system wherein an apparatus comprising: a gain control unit sets the gain coefficient so that the plurality of the levels of the plurality of sound signals is nearly equal to each other (fig.4 (12); fig.5B (12a-12b); col.8 line 7-10 & line 34-46/the apparatus include a gain control unit so that sound be equal to each other) so as to produce the optimal sound level correction based on the ambient condition of the space. Thus, it would have been obvious for one of the ordinary skills in the art to have modified the prior art by adding the apparatus comprising: a gain control unit sets the gain coefficient so that the plurality of the levels of the plurality of sound signals is nearly equal to each other so as to produce the optimal sound level correction based on the ambient condition of the space.

Re claim 9, the audio output apparatus according to claim 7, but the combined teaching of Yanagawa et al. and Aylward as a whole, failed to disclose of wherein the gain control unit includes an offset generating circuit which adds a certain amount of an offset amount to at least one level among the measured levels.

But, Yoshino et al. disclose of a system wherein an apparatus comprising: gain control unit includes an offset generating circuit which adds a certain amount of an offset amount to at least one level among the measured levels (fig.3 (ATG); col.8 line 35-40/amplify to correct the level) so as to produce a modified sound signal based on the ambient condition. Thus, it would have been obvious for one of the ordinary skills in the art to have modified the prior art by adding the apparatus comprising: gain control unit includes an offset generating circuit which adds a certain amount of an offset amount to at least one level among the measured levels so as to produce a modified sound signal based on the ambient condition.

Re claim 11, the audio output apparatus according to claim 7, but the combined teaching of Yanagawa et al. and Aylward as a whole, failed to disclose of wherein further comprising a band pass filter to which the plurality of sound signals is inputted and which limits a frequency band thereof.

But, Yoshino et al. disclose of a system wherein an apparatus comprising: a band pass filter to which the plurality of sound signals is inputted and which limits a frequency band thereof (fig.5A (11a); col.7 line 28-30) so as to determine the band signal frequency to be adjusted. Thus, it would have been obvious for one of the ordinary skills in the art to have modified the prior art by adding the apparatus

comprising: a band pass filter to which the plurality of sound signals is inputted and which limits a frequency band thereof so as to determine the band signal frequency to be adjusted.

Re claim 12, the audio output apparatus according to claim 11, wherein each of the sound signal limited in the frequency band by the band pass filter is outputted to a measuring circuit (fig.5 (11c); col.7 line 38-45/the circuit to determine a measure gain) so as to determine the particular band for the respective frequency band. Thus, it would have been obvious for one of the ordinary skills in the art to have modified the prior art by adding the wherein each of the sound signal limited in the frequency band by the band pass filter is outputted to the measuring circuit so as to determine the particular band for the respective frequency band.

Re claim 13, the audio output apparatus according to claim 11, wherein each of the plurality of the sound signals limited in the frequency band by the band pass filter is outputted to a sound level adjusting circuit (fig.5 (11c-11d); col.7 line 38-45/the circuit to determine a measure gain) so as to determine the particular band for the respective frequency band. Thus, it would have been obvious for one of the ordinary skills in the art to have modified the prior art by adding wherein each of the plurality of the sound signals limited in the frequency band by the band pass filter is outputted to a sound level adjusting circuit so as to determine the particular band for the respective frequency band.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 6; 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Yanagawa et al. (US 5,953,432).

Claim 6, Yanagawa et al. disclose of an audio output apparatus comprising: an array speaker unit having a plurality of speaker units (fig.1 (26); fig.3 (26); col.2 line 64-67/the apparatus include an array of speaker); a frequency control unit that limits or emphasizes frequency bands of a plurality of sound signals including a first sound signal for a first sound beam to be produced by the plurality of speaker units and a second sound signal for a second sound beam to be produced by the plurality of speaker units (fig.1a (IN1-IN2, 22, 28); fig.3a; col.1 line 60-67; col.3 line 10-20/the filter is applied for adjusting the frequency characteristic of each audio signal based on the CPU) and a delay unit having a first delay circuit for each of the first sound signal and a second delay circuit for the second sound signal controlled by the frequency control unit (fig.1b (22, 28); col.2 line 48-52; col.2 line 58-62/the FIR processor inherently include a delaying for determining the respective beam for each of the sound signal in determining the directivity) an a directivity control circuit that controls a delay setting for

each of the first and second delay circuits based on a desired focal position of each of the first and second [[a]] sound-wave beams to be directed to and a position of each of the plurality of speaker units, to emit the first sound beam from the plurality of speaker units in a first directivity and to emit the second sound beam from the plurality of speaker units in a second directivity different from the first directivity (fig.1a (28); fig.5; col.2 line 58-63; col. 3 line 11-47; col.4 line 1-17/the CPU control the delay setting for the FIR delay so that the first sound and second sound may be send to different directivities).

Claim 18, the audio output apparatus according to claim 6, wherein the audio output apparatus simultaneously reproduces the first and second sound signals (S1, S2); fig.1a (IN1-IN2); col.3 line 10-20).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DISLER PAUL whose telephone number is (571)270-1187. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. P./
Examiner, Art Unit 2614

/Devona E. Faulk/

Primary Examiner, Art Unit 2614